

M O S Q U I T O E S



- Used tires have become the most important mosquito production site nationwide! Drill a hole in the bottom of your tire swing, dispose of used tires properly, or store them where they won't come into contact with stormwater.
- Drain or clean all wet spots on your property. Fill in any depressions where water stands for more than four days. Keep bushes and shrubs well trimmed and cut long grass; adult mosquitoes often congregate there.
- Remember that xeriscaping takes less water than traditional landscaping. Less water means fewer mosquitoes.
- Coolers that sit unused for more than 3 days can become infested with mosquitoes. If you aren't using it, treat it with 1-2 cups of bleach. If your cooler drains on your property, you need to treat any standing water with an environmentally friendly larvicide. (see below). You may have a similar problem with condensate from your air conditioner; it can be treated in the same way.
- Cover rain barrels, and clean out and service gutters so they drain properly.
- Water gardens can be stocked to include species that eat mosquito larvae. Mosquito fish (*Gambusia affinis*) or guppies (*Poecilia reticulata*) are readily available from pet stores and will resolve mosquito problems. Goldfish, frogs and dragonflies are also helpful in reducing mosquito larvae.
- Certain indigenous species such as bats help suppress insect populations. A hungry bat can eat up to 10,000 bugs a night, including mosquitoes. For additional information on bats and their habitats, contact your local library.

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When Controlling the Water Source Doesn't Work, Try Fighting Mosquito Bugs with Tinier Bugs

Bacillus thuringiensis israelensis (BTI) is a larvae killing bacteria that will not harm the environment. It can be used in bird baths and won't hurt fish. It is commercially available under the name of "Mosquito Dunk" and can be purchased locally at the Ecology Store and at all of the Do It Yourself Pest & Weed Control Stores. It can be used to treat cooler water, fish ponds, and any area where water ponds.

If You Need Help in Your War Against Mosquitoes

The front line agency in this war against mosquitoes for all of the County, including the City of Tucson, is Pima County Consumer Health and Food Safety (740-2760). Their staff will need specific information on where you think the mosquitoes are breeding so they can investigate. They can suggest solutions and/or cite chronic offenders in terms of mosquito breeding areas on private properties.

Special thanks to Catesby Moore, Stormwater Section of the City of Tucson Department of Transportation and Midji Stephenson, City of Tucson's Citizen & Neighborhood Services for compiling this information sheet.

For additional copies contact:
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ARE MOSQUITOES BUGGING YOU?

Practical Solutions
to a Common
Problem



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Mosquitoes are becoming an increasing problem in the Tucson area. Increased development and increase in water use are likely culprits. The first step in successfully dealing with mosquitoes is to get to know them, their likes and dislikes, and the conditions that favor their reproduction.

Know The Enemy

Only the adult female mosquito bites; she needs blood in order for her eggs to develop. After feeding on blood, she searches for a suitable place to lay her eggs. Most domestic female mosquitoes prefer stagnant water, rich in decomposing organic material. There are a few, however, that like clearer water or who lay their eggs in areas likely to be inundated by rains. Wherever they lay their eggs, the hatchlings (wigglers, small larvae that are in constant motion) need water to survive and develop into adults. The time necessary for the mosquito larvae to develop into an adult varies with the species, from 3-4 days to a week. Adult mosquitoes are not water dependent and can be found congregating in tall grasses and other weedy vegetation. They are most active, bitewise, at dawn and dusk; however, some species also attack during the day. They also tend to be more active during a full moon. Most species of mosquitoes spend their entire life within 1 to 1 1/2 miles of the place where they hatched. Some species do range farther and winds can also carry mosquitoes.

How Can You Elude These Blood Thirsty Insects?

Your choice of fashion can attract mosquitoes. You may want to avoid wearing navy, black, white, and bright colors. Mosquitoes appear to be less attracted to drab colors, such as khaki green and light hues. Remember that mosquitoes can easily pierce thin fabrics so long-sleeved T-shirts offer little protection. They frequently locate their prey by scent, so avoid strongly scented hair sprays, perfumes and lotions. One exception is Avon's "Skin So

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Soft," a scented bath oil that although not a registered repellent, does seem to deter mosquitoes if applied often enough. Many experts recommend it for infants and young children because it lacks the toxicity present in most mosquito repellents.

The mainstay of the repellent industry is "Deet," developed by USDA in the fifties. It is slightly toxic, even in commercially available products, so avoid using it on sunburned skin or on open cuts. Use the lowest concentration that provides you with good results. Never spray the face, as heavy applications can injure mucous membranes around eyes and throat and can cause skin rashes. Mild applications are generally problem free. It can be applied in lotion form to the face, but be careful to avoid the eyes and mouth. Be sure to wash it off when you are no longer exposed to mosquitoes. Some individuals may have an adverse allergic reaction to "Deet". Test it on a small area first. "Deet" reportedly will damage plastics and some synthetic clothing so avoid spilling it on watches and eyeglasses; spandex and rayon can be ruined by it.

The important thing to remember for all repellents is to use them properly and cover all exposed skin. Mosquitoes will unfailingly find and feed on any untreated spots. You can increase your protection by also applying the repellent to your clothes. Remember that mosquitoes avoid landing on surfaces that have repellent on them. Spraying the air around you offers no protection. Natural, essential oils have been used throughout history as insect repellents. Citronella, cedarwood, eucalyptus, lemongrass, lavender, and garlic are all somewhat effective, depending on individual preference. Most are fairly volatile and may need to be reapplied periodically. Citronella candles work best if there is little wind and if people are sitting close to the candle.

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The blue electronic bug zappers, by all accounts, attract more bugs than they kill. High-pitched sonic mosquito repellers are ineffective too; mosquito experts report that the female mosquito, (the one who bites) is practically deaf!

If you are bitten, remedies range from dabbing rubbing alcohol on the bites, making a baking soda and water paste and applying, or using the time honored favorite, calamine lotion.

Helpful Tips for Reducing or Eliminating Those Pesky Mosquitoes

If you want to get rid of these pesky pests, you need to eliminate their breeding sites. Start in your neighborhood to eliminate standing water on private property.

- Look for areas where water stands--flower pots, old paint cans, used tires, etc.
- Clean out bird baths weekly, or treat with an environmentally friendly larvicide (see below).
- The filter in your swimming pool should keep it free of mosquito larvae. But if your pool is in disrepair or you plan a long vacation, the mosquitoes will move in. Keeping your pool in good working condition and using chlorine will eliminate the problem. Don't forget that mosquitoes will even breed in water on your pool cover. When you back wash your pool, don't send the water down the street where it can pond and create a neighborhood nuisance (remember, back washing pools into alleys, streets or other people's property is a violation of the Tucson Code, Section 27-15). Instead, use it to provide supplemental water for your landscape plants. Chlorine levels in pool water won't harm most landscape plants, but again, don't use it where it will stand for more than four days.
- Plastic wading pools should be drained and turned upside down when not in use. When using them for long periods, change the water frequently to avoid offering a site for mosquito larvae.